

REMARKS

Claim Amendments

Claims 16, 21, 24-25 and 27-32 are amended in this response to further define the invention. The amendment to claim 16 is of an editorial nature to improve the form of the claim. No new matter has been added. Claims 21, 24-25 and 27-32 are amended to be directed to a “ball mill comprising a plurality of ball mill vessels” The amended claims are supported throughout the specification, for example, by paragraph 26 on page 10, line 19 to page 12, line 2.

Claim 26 is canceled without prejudice. Applicant reserves the right to pursue the canceled subject matter in one or more divisional applications. Upon entry of this amendment, claims 1-14, 16-21, 24-25 and 27-41 will be pending in the application.

Allowable Subject Matter

Applicant gratefully acknowledges the Examiner’s finding that claims 1-14, 16-20 and 33-41 are allowable.

Rejection Under 35 U.S.C. §102(b)

Claims 21, 24-26 and 29 stand rejected under 35 U.S.C. §102(b) as being anticipated by the British ‘807 publication or Solazzi, U.S. Patent No. 4,402,909. Reconsideration of the rejection is respectfully requested in view of the amendments described above and for the reasons set forth below.

In order to be anticipating, a prior art reference must teach each and every element of the claimed invention. (MPEP §2131.01) As described above, claim 21 has been amended to be directed to a ball mill comprising a plurality of ball mill vessels. The ball mill is further defined in that each of the ball mill vessels comprises (a) a cylinder having a longitudinal axis and a bore extending from a first end of the cylinder along the longitudinal axis and terminating in a spherical recess prior to a second end of the cylinder to form an integral cap at the second end and (b) a cap including an insert portion sized and shaped for insertion into the bore at the first end of the cylinder and

including a spherical recess, wherein the radii of the spherical recesses of the cap and integral cap are substantially identical.

Each of the cited references, British '807 and Solazzi et al. (U.S. Patent No. 4,402,909) describe an individual ball mill vessel of a cylindrical construction. However, neither reference describes a ball mill comprising a plurality of ball mill vessels as required by amended claim 21. Because the references do not describe a ball mill comprising a plurality of ball mill vessels, it is respectfully submitted that claim 21 as amended is patentable over the British '807 reference and Solazzi et al. Reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b) is respectfully requested.

It is respectfully submitted that claims 24-25 and 29, which depend from and further limit claim 21, are not anticipated by the cited references for the reasons stated above with respect to claim 21. Reconsideration and withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. §103(a)

1. Claims 27 and 28

Claims 27 and 28 stand rejected under 35 U.S.C. §103(a) as obvious over either the British '807 reference or Solazzi et al, U.S. Patent No. 4,402,909. Reconsideration of the rejection is respectfully requested.

The present invention provides an apparatus and method for the quick grinding and preparation of a high volume of samples for primary chemical analysis. Accordingly, the apparatus of amended claim 21 provides for a ball mill comprising a plurality of ball mill vessels wherein a number of samples can be quickly ground while still being isolated to prevent contamination between samples. Such an apparatus is distinguishable from the ball mill vessels of the cited references, which do not possess the ability to quickly grind a plurality of samples with the requisite isolation for a high-throughput sample preparation and analysis program.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the teachings of prior art references. Further,

the references, when combined, must teach all of the claim limitations. See MPEP 2143. As described above, nothing in the cited references, British '807 or Solazzi et al., remotely teaches or suggests a ball mill comprising a plurality of ball mill vessels as required by amended claim 21. Thus, it is respectfully submitted that the cited references do not teach all of the limitations of claims 27 and 28, which depend from and further limit claim 21. Accordingly, Applicant respectfully submits that amended claims 21, 27 and 28 are patentable over the cited references British '807 and Solazzi et al.

2. Claims 30-32

Claims 30-32 stand rejected under 35 U.S.C. §103(a) as obvious over either the British '807 reference or Solazzi et al. in view of Bogdanov et al., U.S. Patent No. 4,917,312. Reconsideration of the rejection is respectfully requested for the reasons set forth below.

Like claim 21 described above, claim 30 has been amended to define a ball mill comprising a plurality of ball mill vessels. The ball mill of claim 30 is further defined in that each ball mill vessel comprises (a) a tube having a radius, a longitudinal axis and an opening extending from a first end of the tube to a second end of the tube and (b) a first cap having a spherical recess to cover the first end of the tube; a second cap having a spherical recess to cover the second end of the tube, wherein the radii of the spherical recesses and the tube are substantially identical.

As described above with respect to claim 21, the primary references, British '807 and Solazzi et al., do not teach or suggest a ball mill comprising a plurality of ball mill vessels. Accordingly, it is respectfully submitted that the references do not teach or suggest all of the claim limitations of claim 30 such that a prima facie case of obviousness is lacking. Thus, Applicants respectfully submit that amended claim 30 is not obvious under 35 U.S.C. §103(a) over the British '807 reference or Solazzi et al.

Further, it is respectfully submitted that the deficiencies of the primary references are not overcome by resort to the teachings of Bogdanov et al., U.S. Patent No. 4,917,312. Bogdanov et al. describe a tubular ball mill vessel having a separate closure at each end. Nothing in the reference teaches or suggests a ball mill having a plurality of

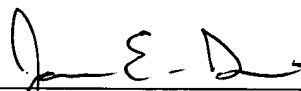
ball mill vessels as required by instant claim 30. Accordingly, it is respectfully submitted that the combination of Bogdanov et al. with the primary references British '807 and Solazzi et al. fails to establish a prima facie case of obviousness against amended claim 30. Reconsideration and withdrawal of the rejection of claim 30 under 35 U.S.C. §103(a) is respectfully requested.

Claims 31 and 32, which depend from and further limit claim 30, are submitted as patentable over the cited references for the reasons stated above with respect to claim 30. Reconsideration and withdrawal of the rejection is respectfully requested.

Conclusion

It is not believed that any fees are required by the timely submission of this response. However, the Commissioner is authorized to charge any underpayment or credit any overpayment of fees to Deposit Account No. 08-0750. Further, if there is ever any other fee deficiency or overpayment of any fees in connection with this patent application, the Commissioner is authorized to charge such deficiency or credit such overpayment to Deposit Account No. 08-0750.

Respectfully submitted,



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